

Challenging Maths Word Problems

Book

Based on current Primary Mathematics Syllabus

- Improves student's ability to solve challenging word problems
- Encourages critical thinking
- Various problem-solving strategies revealed
- Step-by-step solutions provided



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Solve mathematics problems using bar models



Challenging Maths Word Problems

Book

1/5

Joylynn Cheng B.A., PGDE, M. Sos. Sc.

Name:

Class:



101 Must-Know Challenging Maths Word Problems Book 1

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Preface

101 Must-Know Challenging Maths Word Problems Book 1 presents word problems that test on important concepts so students can learn to apply general mathematical problem-solving strategies and heuristics confidently.

What's in this book?

This book comprises word problems often encountered by students in their tests and examinations. The questions are categorized into respective topics in accordance with the current **Primary Mathematics Syllabus**.

Solutions

Detailed step-by-step workings are included in the answer key for every question to show how a problem is solved. Diagrams and mathematical models are provided in most solutions to aid students in understanding the problem-solving processes.



Learn to solve mathematics problems with bar models. This helps students to develop and hone creative and critical thinking skills.

The Editorial Team

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olutions to (Questions 1 ~ 101	S1 ~ S41

Q	ue	25	ti	0	į
	1	1			
	4				

Tom has 18 oranges. Mary has 17 oranges. How many oranges do they have altogether?

They have _____ oranges altogether.

Question Peter has 24 stickers. Jane has 9 stickers more than him. How many stickers do they have altogether?

They have _____ stickers altogether.

Question Mr Adam has some eggs. He sells 24 eggs in the morning and 10 eggs in the afternoon. He has 25 eggs left. How many eggs does he have at first?

He has ______ eggs at first.

0	ues	tic	ij
	1		Ī
	A		

There are 8 boys and 6 girls in class A and 12 students in class B. How many students are there in the two classes?

There are _____ students in the two classes.

Question



Peter has some paperclips. He uses 15 of them and gives 6 paperclips to his sister. He has 17 paperclips left. How many paperclips does he have at first?

He has _____ paperclips at first.

Question

Tom has 28 balloons. Jim has 23 balloons more than him. How many balloons do they have altogether?

They have _____ balloons altogether.

Question	
V	
1	

Ann has some apples. She sells 28 apples and has 15 apples left. How many apples does she have at first?

apples at first. She has _____

Question John buys 21 yellow paperclips and 10 more green paperclips than yellow paperclips. Sean buys 15 paperclips more than John. How many paperclips does Sean buy?

Sean buys _____ paperclips.

Question

There are 11 green balls in a basket. Peter puts 15 orange balls and 21 purple balls into the basket. How many balls are there in the basket altogether?

There are balls in the basket altogether.



A florist sells 26 orchids, 32 carnations and 18 roses. How many flowers does she sell altogether?

She sells	flowers altogether.
-----------	---------------------

Question

There are 9 apples in a basket. Another 12 red apples and 16 green apples are put into the basket. How many apples are there altogether?

There are _____ apples altogether.



Jack sells 24 charity tickets. He sells 17 charity tickets fewer than Mary. How many charity tickets do they sell altogether?

They sell _____ charity tickets altogether.



Question A shirt costs \$41. A pair of pants costs \$12 more than the shirt. How much do the shirt and the pair of pants cost altogether?

The shirt and the pair of pants cost \$_____ altogether.

Question A magazine costs \$5 more than a book. The magazine costs \$9. What is the cost of 3 such books?

The cost of 3 such books is \$_____.

Question



Jack has 26 balloons. Linda has 55 balloons. How many more balloons must Jack buy so that he will have the same number of balloons as Linda?

Jack must buy_____ more balloons.



Here's a quick introduction to the comparison model for solving similar problems. Download from www.onlineresources.sapgrp.com

Question When a number is subtracted from another, the answer is 12. If the bigger number is 17, what is the smaller number?

16

T	he	smaller	num	ber	is	n ztana la rion

Question

Mr Cook buys 17 tickets for a concert. He gives 5 tickets to his friends and uses the rest of the tickets to take his family to the concert. How many people are there in Mr Cook's family?

people in Mr Cook's family. There are

Question

Alice has 23 stamps. She gives her mother 15 stamps. How many stamps does she have in the end?

stamps in the end.

The number is

Question There are 72 people at a party. 20 of them are children and the rest are adults. How many more adults than children are there?

There are _____ more adults than children.

Question

There are 38 soldiers in a field. 15 of them wear green uniforms and the rest wear brown uniforms. How many more soldiers wear brown uniforms than green uniforms?

more soldiers wear brown uniforms than green

uniforms.

Question When two numbers are added together, the answer is 30. If one of the numbers is 12, what is the other number?

The other number is ______.

Question A watch and a clock cost \$68 at a sale. The watch costs \$39. How much more does the watch cost than the clock?

The watch costs \$ _____ more than the clock.

Question

Jim has \$80. Linda has \$36. How much more money does Jim have than Linda?

Jim has \$ _____ more than Linda.



Mary buys a toaster for \$38. She gives the cashier \$50. How much change does she get?

She gets \$_____ in change.

Question Tim has \$95. He spends \$26 and saves the rest of his money. How much does he save?

He saves \$___

Question

There are 8 boy scouts in a group. Each boy scout has 3 badges. How many badges do they have altogether?

badges altogether. They have _____



Solve these using bar models. Download from www.onlineresources.sapgrp.com Peter drinks 2 glasses of milk a day. How many glasses of milk does he drink in a week?

He drinks _____ glasses of milk in a week.

Question

Alice puts 8 stamps on every page of her stamp album. There are 5 pages in her album. How many stamps does she have altogether?

She has _____ stamps altogether.

Question

There are 6 flowers in a bouquet. Betty buys 3 such bouquets. How many flowers does she buy altogether?

She buys _____ flowers altogether.

Q	uestic	n
	1	
	21	

Mrs Wood bakes 18 cakes. She puts them equally into 3 boxes. How many cakes are there in each box?

Thoma and	cakes in	nach	hov
There are	cakes ii	i eacii	DOX.

Question

Andrew reads 4 pages of a book a day. How many days will he take to finish reading a 32-page book?

____ days to finish reading a 32-page He will take ____ book.

Question Mr Cook buys a dozen eggs. He puts them equally into 4 bags. How many eggs are there in each bag?

There are ______ eggs in each bag.

Question	
1	
34	

A packet of tomatoes costs \$2. Mrs Fay has \$10. How many packets of tomatoes can she buy with all her money?

She can buy _____ packets of tomatoes with all her money.

Question Mrs Drew buys 30 sweets. She gives 12 sweets to her daughter and 15 sweets to her son. How many sweets has she left?

She has _____ sweets left.

Question There are 22 flowers in a vase. 9 of them are red, 6 are yellow and the rest are pink. How many pink flowers are there in the vase?

There are _____ pink flowers in the vase.

Question 37

Mrs Jones bakes 35 cookies. There are 8 butter cookies, some chocolate chip cookies and 12 coconut cookies. How many chocolate chip cookies does she bake?

She bakes _____ chocolate chip cookies.

Question

Mrs Drew bakes 16 apple pies and 28 lemon pies on Monday. On Tuesday, she bakes 12 lemon pies. How many more lemon pies than apple pies does she bake in the end?

She bakes _____ more lemon pies than apple pies.

Question

39

There are 20 boys and 10 girls in class A. There are 18 boys and 24 girls in class B. How many fewer girls than boys are there in both classes altogether?

There are _____ fewer girls than boys altogether.



There are 34 peanuts and 12 walnuts on a plate. After Tom has eaten some of the nuts, there are 17 nuts left. How many nuts does Tom eat?

Tom eats	nuts.

Question loe has some marbles. He receives 18 marbles from his father and 13 marbles from his brother. He has 40 marbles in the end. How many marbles does he have at first?

He has _____ marbles at first.

Question When 12 is added to a number, the result is 2 more than 31. What is the number?

The number is _____

Question 43	A farmer has 34 eggs. He throws away 8 rotten eggs and sells 7 eggs. He keeps the rest. How many more eggs does he keep than sell?
Question 44	He keeps more eggs than the number of eggs he sells. There are 54 pages in a book. Mary reads 13 pages on Monday and 8 pages on Tuesday. How many pages are not read yet?
Question	pages are not read yet. There are 18 boys and 21 girls in a field. A teacher has 31 balls. She gives each of them a ball. How many children will not have

____ children will not have a ball.

a ball?

Qu	esti	ion
	-	is c

Peter scores 45 points in a game. Alex scores 6 points fewer than him. How many points do they score altogether?

They score ______ points altogether.

Question

There are 26 batteries in a box. Thomas uses 7 batteries for his toy car and 12 batteries for a torch. How many batteries are left in the box?

batteries are left in the box.

Question

48

Jack, Anna and Tom have 70 marbles. Jack has 24 marbles. Anna has 12 marbles more than him. How many marbles does Tom have?

Tom has _____ marbles.

Question	
1	
49	

There are 38 roses in a vase. 12 of them are red, 10 are pink and the rest are white. How many white roses are there?

white roses. There are ____

Question Mr Smith wants to buy 60 pieces of fruit. He buys 18 apples and 19 bananas at the market. How many more pieces of fruit does he need to buy?

He needs to buy _____ more pieces of fruit.

Question

There are 26 boys and 15 girls in a class. 17 children wear spectacles. How many children do not wear spectacles?

__ children do not wear spectacles.

Qu	es	tic	n
	1		
-	52		

Mrs Owen has 20 cookies. She gives 7 cookies each to her two friends. How many cookies has she left?

She	has	cookies	left.

Question Jane has 35 stickers. She gives 12 stickers to Sam. William gives Jane 13 stickers. How many stickers does Jane have in the end?

Jane has _____ stickers in the end.



There are 45 books on a shelf. 12 of them are English books, 7 are science books and the rest are mathematics books. How many mathematics books are there?

There are _____ mathematics books.

B	Qı	16:	sti	on	
		1	ul.	mp	
	1	5	5		

There are 54 pink ribbons in a box. There are 15 fewer red ribbons than pink ribbons in the box. How many ribbons are there altogether?

There are _____ ribbons altogether.

Question

There are 40 fish in a tank. 16 of them are orange, 11 are red and the rest are white. How many white fish are there?

There are _____ white fish.

Question 57

There are 26 red apples and 12 green apples in box A.

There are 20 red apples and 10 green apples in box B.

How many more apples are there in box A than in box B?

There are _____ more apples in box A than in box B.

Question
0.500
50

Joel has some toy cars. His mother gives him 18 toy cars and his father gives him another 8 toy cars. He has 41 toy cars altogether. How many toy cars does he have at first?

He hast	toy	cars	at	first.
---------	-----	------	----	--------

Question

Peter has \$20. He spends \$4 on Monday and \$8 on Tuesday. How much has he left?

He has \$_____left.

Question

Tom has 28 toy aeroplanes. 12 of them are red, 5 are green and the rest are blue. How many more blue toy aeroplanes than green toy aeroplanes does he have?

He has _____ more blue toy aeroplanes than green toy aeroplanes.

Question

There are 35 adults and 28 children at a party. After 3 men and 17 girls leave the party, how many people are left at the party?

There are ______ people left.

Question

A dinner costs \$100. Mr William pays \$35, Mr Jackson pays \$40 and Mr Lee pays the rest. How much does Mr Lee pay?

Mr Lee pays \$ _____

Question



There are 80 students in an art competition. 15 of them are in Primary 1, 12 are in Primary 2 and the rest are in Primary 3. What is the total number of Primary 1 and Primary 3 students in the competition?

The total number of Primary 1 and Primary 3 students in the competition is _____



Ben has \$30. He spends \$5 on food, \$9 on books and some on stationery. He has \$8 left. How much does he spend on stationery?

He spends	\$ on stationery	

Question

John has \$7. Betty has \$2 more than John. Peter has \$6 less than Betty. How much do they have altogether?

They have \$_____ altogether.

Question

66

An apple costs 60 cents. An orange costs 20 cents less than the apple. A pear costs 40 cents more than the orange. How much does the pear cost?

The pear costs _____ cents.

Question
67

A dress costs \$24. It costs \$16 more than a blouse. What is the total cost of the dress and the blouse?

The total cost of the dress and the blouse is \$_____.

Question 68

There are 46 orchids in a vase. There are 28 more orchids than roses in the vase. How many flowers are there altogether?

There are _____ flowers altogether.

Question

A photo album contains 24 photographs. Jack takes out 8 photographs and puts in 15 new ones. How many photographs are in the photo album in the end?

There are _____ photographs in the photo album in the end.

Quest	ion
1	
-	

There are 14 pink flowers and 12 red flowers in a shop. 7 flowers are sold. How many flowers are left?

T1	Cl	1
There are	flowers	left.

Question

There are 3 red pens and 2 blue pens in a box. How many pens are there in 5 such boxes?

There are _____ pens in 5 such boxes.

Question

Mrs Rice has 3 boxes of cookies. There are 5 cookies in each box. Her friend gives her another 12 cookies. How many cookies does Mrs Rice have altogether?

Mrs Rice has _____ cookies altogether.

C)u	165	sti	on
		1		

In a hall, there are 3 rows of children. There are 7 children in each row. Another 5 children arrive at the hall. How many children are there altogether?

There are	children altogether
-----------	---------------------

Question

There are 4 bags of oranges. Each bag has 8 oranges. There are 3 bags of apples. Each bag has 5 apples. How many pieces of fruit are there altogether?

There are _____ pieces of fruit altogether.

Question

75

Mr Baker buys some eggs. He cooks 12 of them, throws away 6 rotten ones and packs the rest into 2 bags. Each bag has 3 eggs. How many eggs does he have at first?

He has ______eggs at first.



Question There are 5 blue crayons and 6 purple crayons in a box. There are 3 boxes. How many crayons are there altogether?

crayons altogether.



Question Mr Bell has 18 apples. He shares the apples equally with his 2 friends. How many apples does each of them get?

Each of them gets _____ apples.

Question

Ben has 8 coins. Lucy has 4 coins. They divide their coins equally between themselves. How many coins does each of them get?

Each of them gets -

C) u	e	51	ic	n
		1			
	1	79	1		

There are 12 chicken eggs and 6 quail eggs in a basket. All the eggs are packed equally into 3 packets. How many eggs are there in each packet?

There are _____ eggs in each packet.

Question 2 books cost \$10 and 3 pens cost \$6. How much does Peter spend if he buys a book and a pen?

Peter spends \$_____ if he buys a book and a pen.

Question

There are 11 children in a room. 3 of them do not have hats. The rest of the children have 2 hats each. How many hats do they have altogether?

They have _____ hats altogether.

Question	
Ther.	
82	

Janet buys 4 packets of balloons. There are 5 balloons in each packet. She uses 2 packets. How many balloons has she left?

She	has_	balloons	left.
~~~	~~~~	O CHARGO CARO	

Question Mary has \$15. She buys a chocolate cake and has \$7 left. How much do 2 such chocolate cakes cost?

2 such chocolate cakes cost \$ ____

Question

Mr Brown has 4 bags. There are 9 oranges in each bag. He gives 15 oranges to his friend. How many oranges has he left?

He has _____ oranges left.

Question
QE.

A stalk of rose costs \$5. A florist sells 3 stalks of roses and some stalks of orchids. She collects \$27. How much money does she collect from selling the orchids?

She collects \$	from selling the orchids.
oric concett 4	3

Question

2 chairs and a table cost \$50. A chair costs \$8. What is the cost of the table?

The cost of the table is \$

Question

4 children have 5 buns each. Each child eats 2 buns. How many buns are there left?

There are _____ buns left.



Question Mrs Taylor has 10 boxes of egg tarts. There are 4 egg tarts in a box. She gives 6 boxes of egg tarts to her friends. How many egg tarts has Mrs Taylor left?

Mrs	Taylor	has	egg tarts	left.
LATIO	I dy IOI	TICO	- cyy tarto	TOT FE

Question

There are 7 bunches of balloons. Each bunch has 3 balloons. 15 of the balloons are green and the rest are blue. How many blue balloons are there?

There are ______ blue balloons.

Question

A pencil costs 90 cents. An eraser costs 60 cents less. Jim wants to buy 3 erasers. How much does he have to pay?

___ cents for 3 erasers. He has to pay _

Question

Peter has \$20. He buys a vase for \$11. The cashier gives him a five-dollar note and some two-dollar notes in change. How many two-dollar notes does the cashier give him?

two-dollar notes. The cashier gives him

Question Alice packs 12 buns equally into 3 bags. In each bag, there are 1 raisin bun and some butter buns. How many butter buns are there in each bag?

> butter buns in each bag. There are ____

Question

Mary has 12 apples. George has 6 apples. How many apples must Mary give to George so that they have an equal number of apples?

apples. Mary must give George



Question Daniel has 40 stickers. Kate has 22 stickers. How many stickers must Daniel give to Kate so that they have equal number of stickers?

> stickers. He must give Kate.

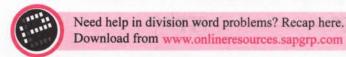
Question Peter has 90 cents in his wallet. He has 5 ten-cent coins and some twenty-cent coins. How many twenty-cent coins does he have?

He has _____ twenty-cent coins.

Question

There are 20 marbles in a bag. Sam divides them equally into 4 groups. How many marbles are there in 2 such groups?

There are _____ marbles in 2 such groups.



There are 6 oranges in a bag. A bag of oranges costs \$3. Mrs Cook has \$15. How many oranges can she buy altogether?

She can buy _____ oranges altogether.

Question

Mrs Scoff has some cookies. She buys 15 cookies. She has 65 cookies in the end.

(a) How many cookies does she have at first?

(b) How many cookies does she have altogether if she buys another 25 cookies?

- (a) She has _____ cookies at first.
- (b) She has _____ cookies altogether.

Question

Mr Adam spends \$70 on a belt and saves the rest of his money. If he saves \$12,

- (a) how much more does he spend than save?
- (b) how much money does he have at first?

- (a) He spends \$ _____ more than he saves.
- (b) He has \$ ____ at first.

1		0		
	uest	77	n	n
		7.1		

A plate costs \$8 more than a bowl. If the plate costs \$23,



- (a) how much does the bowl cost?
- (b) what is the total cost of the plate and the bowl?

- (a) The bowl costs \$_____.
- (b) The total cost of the plate and the bowl is \$_____

Question

There are 40 chickens and 13 ducks on a farm. The farmer buys another 14 chickens.



- (a) How many more chickens than ducks are there on the farm?
- (b) How many chickens and ducks are there altogether?

- (a) There are _____ more chickens than ducks on the farm.
- (b) There are _____ chickens and ducks altogether.

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40YEARS

Challenging
Maths
Word Problems

Solutions





Method 1:

Draw diagrams and count the total number of oranges



Tom

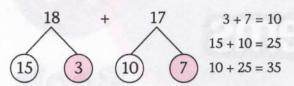


Mary



Method 2:

Use number bonds to find the total number of oranges



They have 35 oranges altogether.

#### **Solution to Question**



Method 1:

Draw diagrams and count the total number of stickers

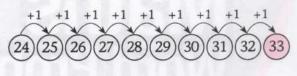




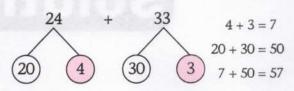
57

Method 2:

Step 1: Use 'counting on' method to find the number of stickers Jane has



Step 2: Use number bonds to find the number of stickers they have altogether



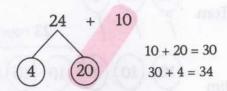
They have <u>57</u> stickers altogether.

3

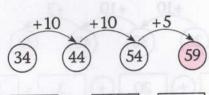
## Solution to Question

4

Step 1: Use number bonds to find the total number of eggs he has sold



Step 2: Use 'counting on' method to find the number of eggs he has at first



Method 1:

Draw diagrams and count the number of students

Class A

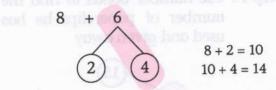


Class B

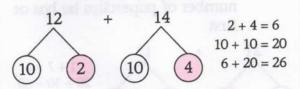


Method 2:

Step 1: Use number bonds to find the number of students in class A



Step 2: Use number bonds to find the number of students in the two classes



There are 26 students in the two classes.

He has <u>59</u> eggs at first.

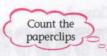
5

#### **Solution to Question**

6

Method 1:

Draw diagrams and count the total number of paperclips



Used

His sister

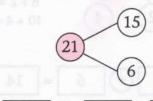
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38

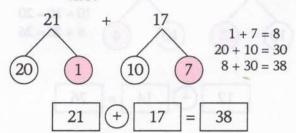
Method 2:

Step 1: Use number bonds to find the number of paperclips he has used and given away



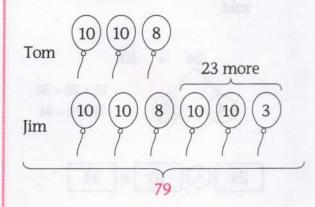
15 + 6 = 21

Step 2: Use number bonds to find the number of paperclips he has at first

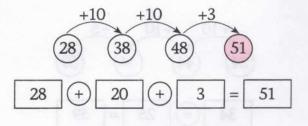


He has 38 paperclips at first.

Step 1 : Draw diagrams and count the balloons



Step 2: Use 'counting on' method to find the number of balloons Jim has



Step 3: Use number bonds to find the number of balloons they have altogether

They have <u>79</u> balloons altogether.



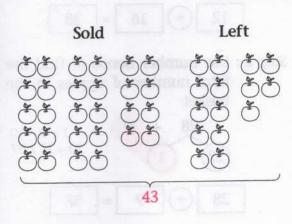
## Solution to Question

8

Method 1:

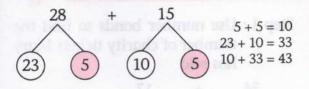
Draw diagrams and count the total number of apples





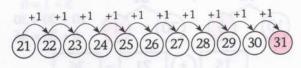
Method 2:

Use number bonds to find the total number of apples at first

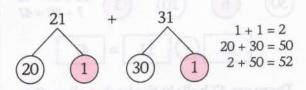


She has 43 apples at first.

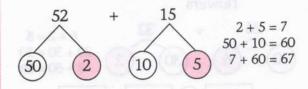
Step 1 : Use 'counting on' method to find the number of green paperclips John has



Step 2 : Use number bonds to find the total number of paperclips John has

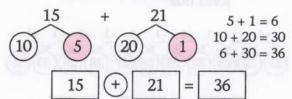


Step 3: Use number bonds to find the number of paperclips Sean has



Sean buys 67 paperclips.

Step 1: Use number bonds to find the total number of balls he puts into the basket



Step 2: Use number bonds to find the total number of balls in the basket

There are 47 balls in the basket altogether.

#### **Solution to Question**

10

Step 1: Use number bonds to find the total number of two types of flowers

Step 2: Use number bonds to find the total number of three types of flowers

She sells 76 flowers altogether.

Step 1: Use number bonds to find the number of apples that are put into the basket

Step 2: Use number bonds to find the total number of apples in the basket

There are 37 apples altogether.

#### **Solution to Question**

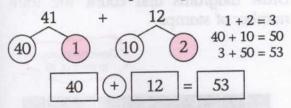
12

Step 1 : Use number bonds to find the number of charity tickets Mary has sold

Step 2: Use number bonds to find the total number of charity tickets they have sold

They sell <u>65</u> charity tickets altogether.

Step 1: Use number bonds to find the cost of a pair of pants



Step 2: Use number bonds to find the total cost of the shirt and the pair of pants

The shirt and the pair of pants cost \$94 altogether.

## Solution to Question

14

Step 1: Draw diagrams to find the cost of a book

Magazine



Book

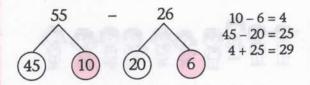


Step 2: Use repeated addition to find the cost of 3 such books

The cost of 3 such books is \$12.

### Solution to Question

Use number bonds to find how many more balloons lack must buy

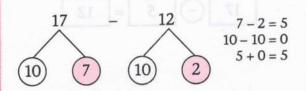


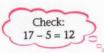
Jack must buy 29 more balloons.

## **Solution to Question**



Use number bonds to find the smaller number





The smaller number is 5.



### Solution to Question

18

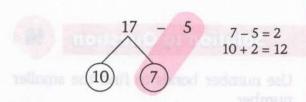
Method 1:

Draw diagrams and count the number of tickets left



#### Method 2:

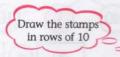
Use number bonds to find the number of people in Mr Cook's family



There are <u>12</u> people in Mr Cook's family.

#### Method 1:

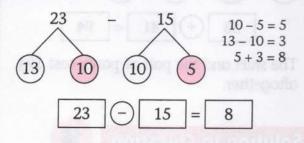
Draw diagrams and count the total number of stamps





#### Method 2:

Use number bonds to find the number of stamps she has in the end

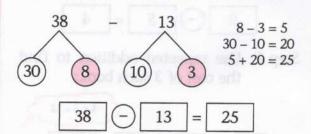


She has 8 stamps in the end.

## **Solution to Question**

19

Use number bonds to find the number



The number is 25.

20

### **Solution to Question**

21

Step 1 : Use number bonds to find the number of adults

$$72 - 20 
70 - 20 = 50 
50 + 2 = 52$$

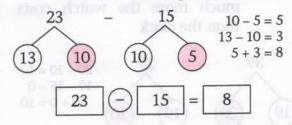
Step 2: Use number bonds to find how many more adults than children there are

$$52 - 20 \quad 50 - 20 = 30 \\
30 + 2 = 32$$

There are 32 more adults than children.

Step 1: Use number bonds to find the number of soldiers in brown uniforms

Step 2: Use number bonds to find how many more soldiers wear brown uniforms than green uniforms



 $\underline{8}$  more soldiers wear brown uniforms than green uniforms.

## **Solution to Question**

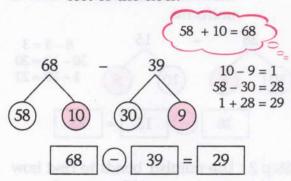
22

Step 1: Write down the number sentence

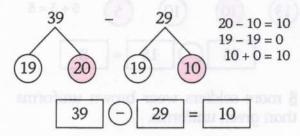
Step 2: Use number bonds to find the number

The other number is <u>18</u>.

Step 1: Use number bonds to find the cost of the clock



Step 2: Use number bonds to find how much more the watch costs than the clock

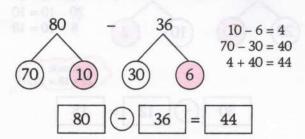


The watch costs \$10 more than the clock.

#### Solution to Question

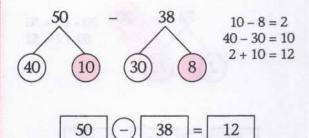
24

Use number bonds to find how much more money Jim has than Linda



Jim has \$44 more than Linda.

Use number bonds to find the amount of change she gets

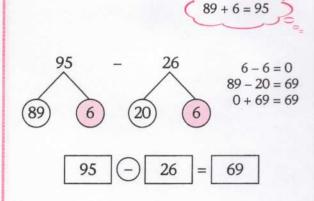


She gets \$12 in change.

## **Solution to Question**

26

Use number bonds to find how much money Tim saves



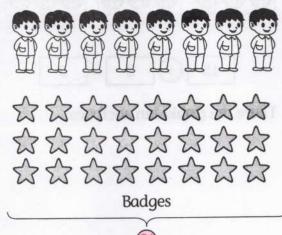
He saves \$69.

27

#### Method 1:

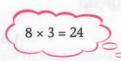
Draw diagrams and count the number of badges altogether

#### Boy scouts



#### Method 2:

Use repeated addition to find the number of badges

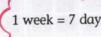




#### Solution to Question

#### Method 1:

Draw a table and count the num glasses of milk he drinks in a wee



Monday	99
Tuesday	99
Wednesday	99
Thursday	99
Friday	99
Saturday	99
Sunday	99

#### Method 2:

Use repeated addition to fir number of glasses of milk he dr a week





He drinks 14 glasses of milk in a

They have <u>24</u> badges altogether.

29

### **Solution to Question**

31

Method 1:

Draw diagrams to count the total number of stamps





Method 2:

Use repeated addition to find the total number of stamps she has

$$5 \times 8 = 40$$

She has 40 stamps altogether.

#### **Solution to Question**



Method 1:

Draw diagrams to count the total number of flowers







Method 2:

Use repeated addition to find the total number of flowers

$$3 \times 6 = 18$$

She buys <u>18</u> flowers altogether.

Draw diagrams and put 18 cakes into 3 equal groups

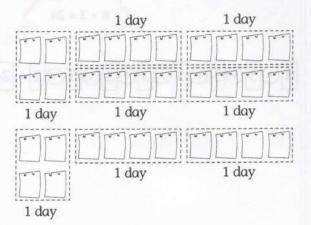


There are 6 cakes in each box.

## Solution to Question



Draw diagrams and put 4 pages in one group



He will take  $\underline{8}$  days to finish reading a 32-page book.

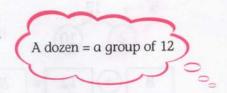


#### **Solution to Question**



gives to son -

Draw diagrams to group the eggs into 4 bags equally



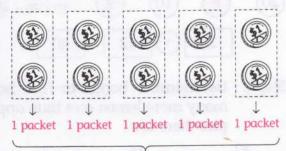


There are 3 eggs in each bag.

#### **Solution to Question**



Draw diagrams and circle 2 one-dollar coins to represent 1 packet



5 packets

She can buy  $\underline{5}$  packets of tomatoes with all her money.

#### Method 1:

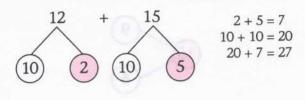
Draw diagrams and count the number of sweets left

gives to daughter

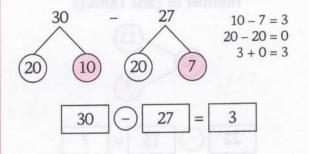
#### Method 2:

3 left

Step 1: Use number bonds to find the number of sweets she gives away



Step 2: Use number bonds to find the number of sweets she has left



She has <u>3</u> sweets left.

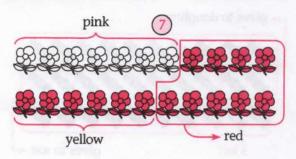
36

**Solution to Question** 

37

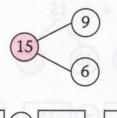
Method 1:

Draw diagrams and group the flowers into different colours



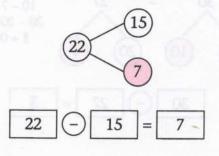
Method 2:

Step 1: Use number bonds to find the total number of red and yellow flowers



9 (+) 6 = 15

Step 2 : Use number bonds to find the number of pink flowers

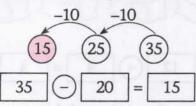


There are 7 pink flowers in the vase.

Step 1: Use number bonds to find the number of butter and coconut cookies

$$8 + 12$$
 $8 + 2 = 10$ 
 $10 + 10 = 20$ 

Step 2: Use 'counting backwards' method to find the number of chocolate chip cookies



She bakes 15 chocolate chip cookies.

### **Solution to Question**

38

Step 1: Use number bonds to find the total number of lemon pies she bakes

Step 2: Use number bonds to find how many more lemon pies than apple pies there are

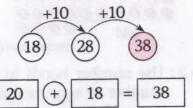
She bakes  $\underline{24}$  more lemon pies than apple pies in the end.

39

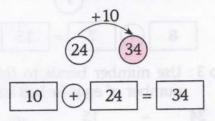
Solution to Question

40

Step 1: Use 'counting on' method to find the total number of boys



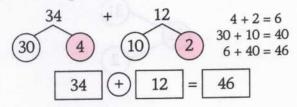
Step 2: Use 'counting on' method to find the total number of girls



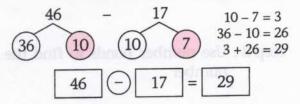
Step 3: Use number bonds to find how many fewer girls than boys there are

There are  $\underline{4}$  fewer girls than boys altogether.

Step 1: Use number bonds to find the total number of nuts on the plate



Step 2: Use number bonds to find the number of nuts Tom has eaten



Tom eats 29 nuts.

### **Solution to Question**



Step 1: Use number bonds to find the total number of marbles he receives

Step 2: Use number bonds to find the total number of marbles he has at first

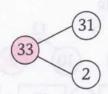
He has 9 marbles at first.



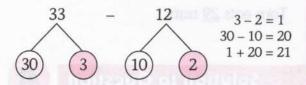
### **Solution to Question**

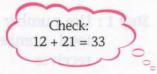
43

Step 1: Use number bonds to find the result



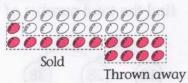
Step 2: Use number bonds to find the number



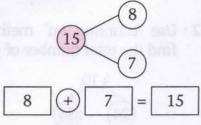


The number is 21.

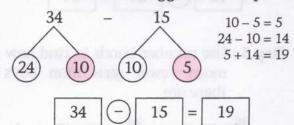
Step 1 : Draw diagrams



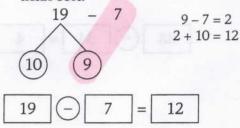
Step 2: Use number bonds to find the number of eggs he has thrown and sold



Step 3: Use number bonds to find the number of eggs he has kept



Step 4: Use number bonds to find how many more eggs he has kept than sold



He keeps <u>12</u> more eggs than the number of eggs he sells.

44

**Solution to Question** 

46

Step 1: Use 'counting on' method to find the total number of pages she has read on both days

Step 2: Use number bonds to find the number of pages that are not read yet

33 pages are not read yet.

#### **Solution to Question**

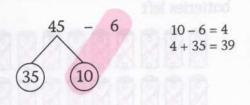
45

Step 1 : Use number bonds to find the total number of children

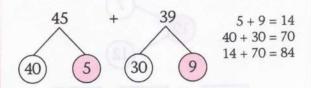
Step 2: Use number bonds to find the number of children who will not have a ball

8 children will not have a ball.

Step 1 : Use number bonds to find the points scored by Alex



Step 2: Use number bonds to find the total points scored by both boys



45 + 39 = 84

They score <u>84</u> points altogether.



### **Solution to Question**

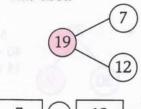
#### Method 1:

Draw diagrams to count the number of batteries left



#### Method 2:

Step 1 : Use number bonds to find the total number of batteries he has used



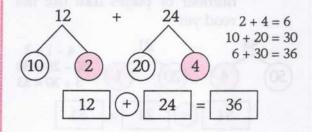
Step 2: Use number bonds to find the number of batteries left in the box

7 batteries are left in the box.

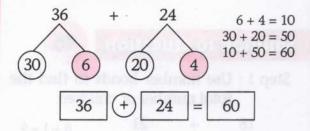
#### Step 1: Draw a table

Jack	24	
Anna	12 + 24	
Tom	?	
Total	70	

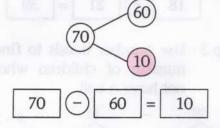
Step 2: Use number bonds to find the number of marbles Anna has



Step 3: Use number bonds to find the number of marbles Jack and Anna have



Step 4: Use number bonds to find the number of marbles Tom has



Tom has 10 marbles.

49

Solution to Question

51

Step 1: Use 'counting on' method to find the number of red and pink roses

12 (+) 10 =

Step 2: Use number bonds to find the number of white roses

There are 16 white roses.

### Solution to Question

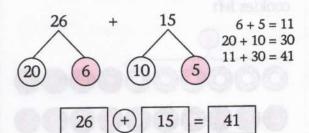


Step 1: Use number bonds to find the number of pieces of fruit he has bought at the market

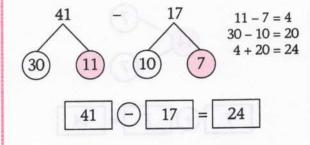
Step 2: Use number bonds to find the number of pieces of fruit he needs to buy

He needs to buy 23 more pieces of fruit.

Step 1: Use number bonds to find the number of children in the class



Step 2: Use number bonds to find the number of children who do not wear spectacles



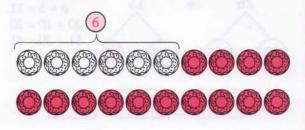
24 children do not wear spectacles.

52

#### **Solution to Question**

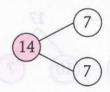
Method 1:

Draw diagrams to find the number of cookies left



Method 2:

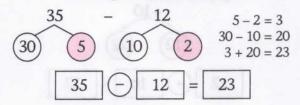
Step 1: Use number bonds to find the total number of cookies she has given away



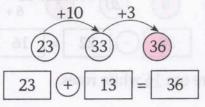
Step 2: Use number bonds to find the number of cookies she has left

She has 6 cookies left.

Step 1: Use number bonds to find the number of stickers Jane has left after giving 12 stickers to Sam



Step 2: Use 'counting on' method to find the number of stickers Jane has after William has given her 13 stickers

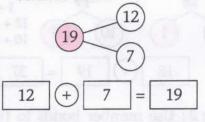


Jane has 36 stickers in the end.

### **Solution to Question**

54

Step 1: Use number bonds to find the total number of English and science books



Step 2: Use number bonds to find the number of mathematics books

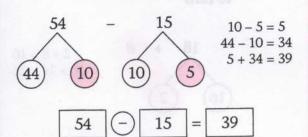
There are <u>26</u> mathematics books.



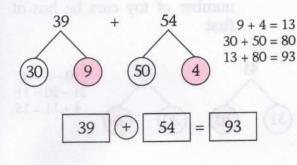
Solution to Question

56

Step 1: Use number bonds to find the number of red ribbons

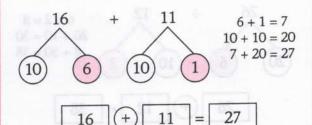


Step 2: Use number bonds to find the number of red and pink ribbons

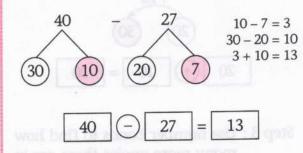


There are  $\underline{93}$  ribbons altogether.

Step 1: Use number bonds to find the number of orange and red fish



Step 2: Use number bonds to find the number of white fish



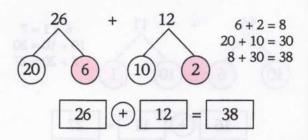
There are 13 white fish.



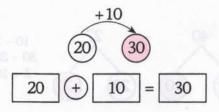
**Solution to Question** 

58

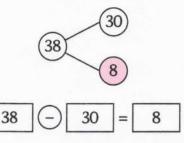
Step 1: Use number bonds to find the number of apples in box A



Step 2: Use 'counting on' method to find the number of apples in box B

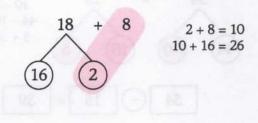


Step 3: Use number bonds to find how many more apples there are in box A than in box B

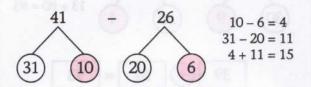


There are  $\underline{8}$  more apples in box A than in box B.

Step 1: Use number bonds to find the total number of toy cars given to him



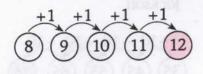
Step 2: Use number bonds to find the number of toy cars he has at first



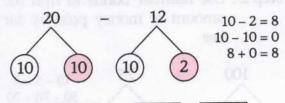
He has 15 toy cars at first.



Step 1: Use 'counting on' method to find the amount of money he has spent on both days



Step 2: Use number bonds to find the amount of money he has left



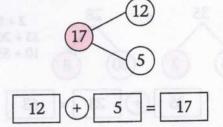
20 - 12 = 8

He has \$8 left.

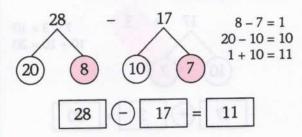
## **Solution to Question**



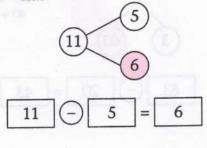
Step 1: Use number bonds to find the total number of red and green toy aeroplanes



Step 2: Use number bonds to find the number of blue toy aeroplanes

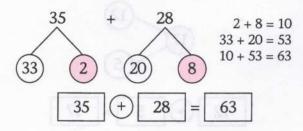


Step 3: Use number bonds to find how many more blue toy aeroplanes than green toy aeroplanes he has



He has  $\underline{6}$  more blue toy aeroplanes than green toy aeroplanes.

Step 1: Use number bonds to find the total number of people at the party



Step 2: Use number bonds to find the number of people who left the party

Step 3: Use number bonds to find the number of people left at the party

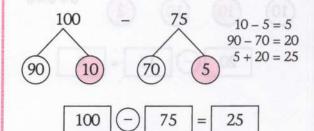
43

Step 1: Use 'counting on' method to find the total amount of money paid by Mr William and Mr lackson

75

35

Step 2: Use number bonds to find the amount of money paid by Mr Lee



There are <u>43</u> people left.

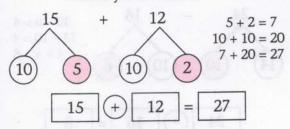
Mr Lee pays \$25.

63

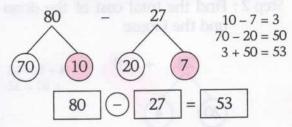
**Solution to Question** 

64

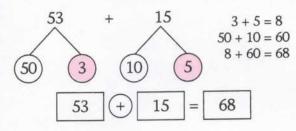
Step 1: Use number bonds to find the total number of Primary 1 and Primary 2 students



Step 2: Use number bonds to find the number of Primary 3 students



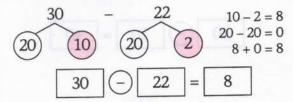
Step 3: Use number bonds to find the total number of Primary 1 and Primary 3 students



The total number of Primary 1 and Primary 3 students in the competition is <u>68</u>.

Step 1 : Add the total amount of money spent and left

Step 2: Use number bonds to find the amount of money he has spent on stationery

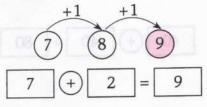


He spends \$8 on stationery.

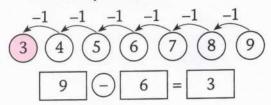
### **Solution to Question**



Step 1: Use 'counting on' method to find the amount of money Betty has



Step 2: Use 'counting backwards' method to find the amount of money Peter has



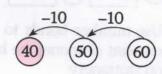
Step 3 : Add the amount of money they have altogether

They have \$19 altogether.

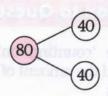


Step

Step 1: Use 'counting backwards' method to find the cost of the orange



Step 2: Use number bonds to find the cost of the pear

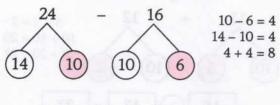


The pear costs 80 cents.

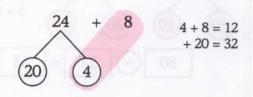
#### **Solution to Question**

67

Step 1: Use number bonds to find the cost of the blouse



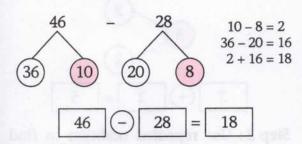
Step 2: Find the total cost of the dress and the blouse



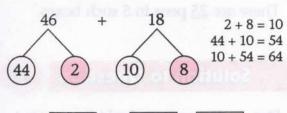
The total cost of the dress and the blouse is \$32.



Step 1: Use number bonds to find the number of roses



Step 2: Use number bonds to find the total number of flowers

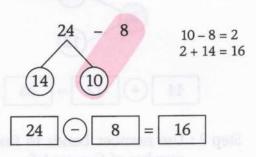


There are 64 flowers altogether.

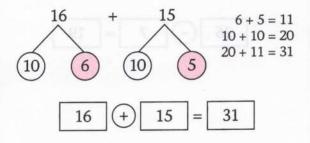
#### **Solution to Question**



Step 1: Use number bonds to find the number of photographs in the album after 8 photographs are taken out



Step 2: Use number bonds to find the number of photographs in the album after 15 new photographs are put in



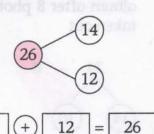
There are 31 photographs in the photo album in the end.

70

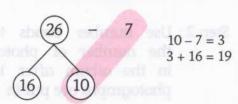
### **Solution to Question**

71

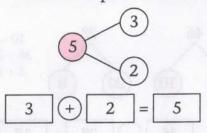
Step 1: Use number bonds to find the total number of flowers



Step 2: Use number bonds to find the number of flowers left



Step 1: Use number bonds to find the number of pens in a box



Step 2: Use repeated addition to find the number of pens in 5 boxes

$$5 \times 5 = 25$$

There are 25 pens in 5 such boxes.

## **Solution to Question**

72

Step 1 : Use repeated addition to find the number of cookies in 3 boxes

$$3 \times 5 = 15$$

Step 2: Use number bonds to find the number of cookies she has altogether

Mrs Rice has 27 cookies altogether.

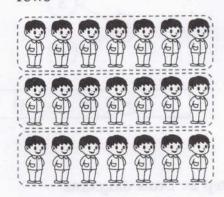
There are 19 flowers left.



**Solution to Question** 

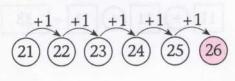


Step 1: Draw diagrams and use repeated addition to find the total number of children in 3 rows



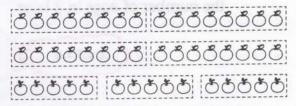


Step 2 : Use 'counting on' method to find the total number of children after 5 more children arrived at the hall



There are 26 children altogether.

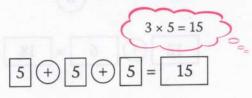
Step 1: Draw diagrams



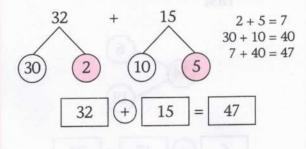
Step 2: Use repeated addition to find the total number of oranges

$$8 + 8 + 8 + 8 + 8 = 32$$

Step 3: Use repeated addition to find the total number of apples



Step 4: Use number bonds to find the total number of pieces of fruit



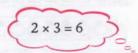
There are 47 pieces of fruit altogether.



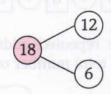
**Solution to Question** 



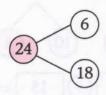
Step 1: Use repeated addition to find the number of eggs in 2 bags



Step 2: Use number bonds to find the number of eggs that he has cooked and thrown away

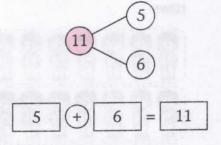


Step 3: Use number bonds to find the total number of eggs he has at first



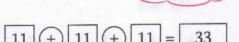
He has <u>24</u> eggs at first.

Step 1: Use number bonds to find the number of crayons in a box



Step 2: Draw diagrams

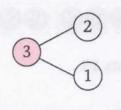




There are <u>33</u> crayons altogether.



Step 1: Use number bonds to find the total number of people sharing the apples



Step 2: Draw a table to group the apples into 3 sets

Mr Bell	Friend 1	Friend 2
8	8	8
*	2	<b>A</b>
<b>A</b>	*	*
*	A	<u>*</u>
3	2	*
9	9	2
		0

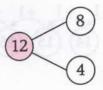
3 groups of 6 = 18

Each of them gets 6 apples.

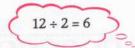
#### **Solution to Question**



Step 1: Use number bonds to find the total number of coins



Step 2: Draw diagrams to find the number of coins each of them gets





2 groups of 6 = 12

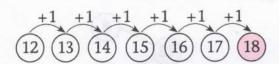
Each of them gets 6 coins.



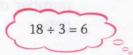
#### **Solution to Question**



Step 1: Use 'counting on' method to find the total number of eggs



Step 2 : Draw diagrams and put the 18 eggs into 3 groups



000000 000000

3 groups of 6 = 18

There are  $\underline{6}$  eggs in each packet.

Step 1 : Draw diagrams to find the cost of 1 book and 1 pen



Book





A book costs \$5.

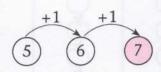






A pen costs \$2.

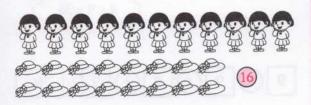
Step 2: Use 'counting on' method to find the total cost of a book and a pen



Peter spends \$7 if he buys a book and a pen.

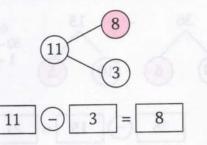
#### Method 1:

Draw diagrams to find the total number of hats

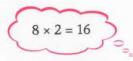


#### Method 2:

Step 1: Use number bonds to find the number of children with hats



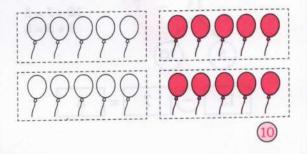
Step 2 : Use repeated addition to find the total number of hats



#### They have <u>16</u> hats altogether.

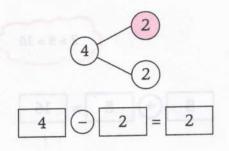
#### Method 1:

Draw diagrams to find the number of balloons left

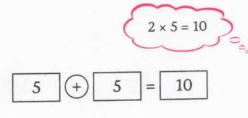


#### Method 2:

Step 1: Use number bonds to find the number of packets of balloons left



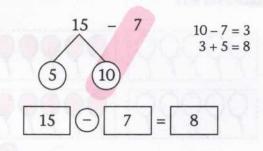
Step 2: Use repeated addition to find the number of balloons left



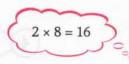
She has 10 balloons left.



# Step 1: Use number bonds to find the cost of a chocolate cake



Step 2: Use repeated addition to find the cost of 2 such chocolate cakes



2 such chocolate cakes cost \$16.

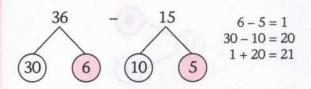
### **Solution to Question**

84

Step 1: Use repeated addition to find the total number of oranges

$$\boxed{4 \times 9 = 36}$$

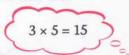
Step 2: Use number bonds to find the total number of oranges left



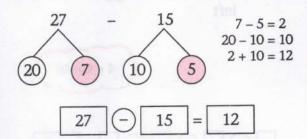
He has <u>21</u> oranges left.



Step 1: Use repeated addition to find the cost of 3 stalks of roses



Step 2: Use number bonds to find the amount of money she has collected from selling the orchids



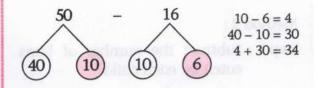
She collects \$12 from selling the orchids.

## **Solution to Question**



Step 1: Use repeated addition to find the total cost of 2 chairs

Step 2: Use number bonds to find the cost of the table



The cost of the table is \$34.



### Solution to Question

88

Method 1:

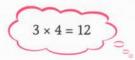
Draw diagrams to find the number of buns left



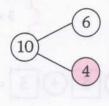
Method 2:

Step 1 : Subtract the number of buns eaten by each child

Step 2: Use repeated addition to find the number of buns left

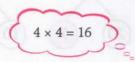


Step 1: Use number bonds to find the number of boxes of egg tarts she has left





Step 2 : Use repeated addition to find the number of egg tarts she has left



There are 12 buns left.

Mrs Taylor has 16 egg tarts left.



## **Solution to Question**

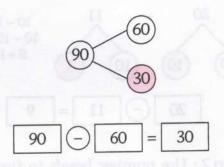


Step 1: Use repeated addition to find the total number of balloons

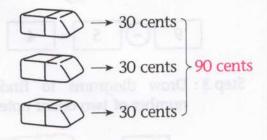
$$\boxed{3 \oplus 3 \oplus 3 \oplus 3 \oplus 3 \oplus 3 \oplus 3} = \boxed{21}$$

Step 2: Use number bonds to find the number of blue balloons

Step 1: Use number bonds to find the cost of an eraser



Step 2 : Draw diagrams to find the cost of 3 erasers



There are 6 blue balloons.

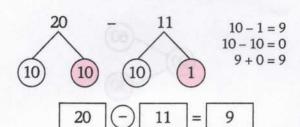
He has to pay 90 cents for 3 erasers.



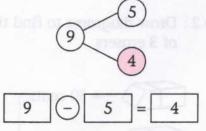
**Solution to Question** 

92

Step 1: Use number bonds to find the amount of change he gets



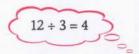
Step 2: Use number bonds to find the amount of money in two-dollar notes



Step 3: Draw diagrams to find the number of two-dollar notes

The cashier gives him  $\underline{2}$  two-dollar notes.

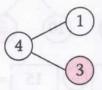
Step 1: Draw diagrams to find the number of buns in one bag





There are 4 buns in each bag.

Step 2: Use number bonds to find the number of butter buns in each bag



There are  $\underline{3}$  butter buns in each bag.



## Solution to Question



Step 1: Draw diagrams to find how many more apples Mary has than George

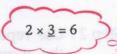
Mary



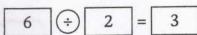
George



Step 2: Divide to find how many apples Mary has to give to George

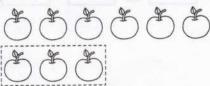


2 groups of 3 = 6

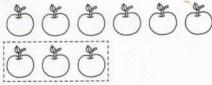


Step 3: Draw diagrams to check if the answer is correct

Mary

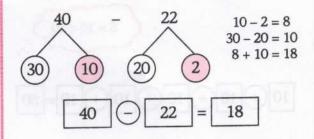


George

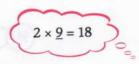


Mary must give George 3 apples.

Step 1 : Use number bonds to find how many more stickers Daniel has than Kate



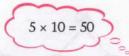
Step 2 : Divide to find how many stickers Daniel has to give to Kate



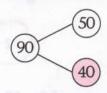
2 groups of 9 = 18

He must give Kate 9 stickers.

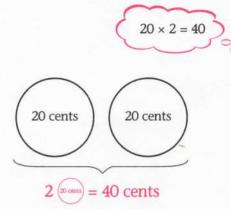
Step 1: Use repeated addition to find the amount of money in tencent coins



Step 2: Use number bonds to find the amount of money in twenty-cent coins



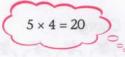
Step 3: Draw diagrams to find the number of twenty-cent coins



He has 2 twenty-cent coins.

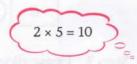
Step 1: Draw diagrams to find the number of marbles in one group





4 groups of 5 = 20

Step 2: Use repeated addition to find the number of marbles in 2 such groups



There are 10 marbles in 2 such groups.



Step 1: Draw diagrams to find the number of bags of oranges Mrs Cook can buy

15 ÷ 3 = 5

5 bags



Step 2: Use repeated addition to find the number of oranges

 $6 \times 5 = 30$ 

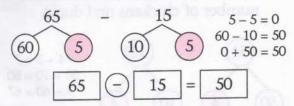
6+6+6+6+6= 30

She can buy 30 oranges altogether.

## Solution to Question



(a) Use number bonds find the number of cookies she has at first



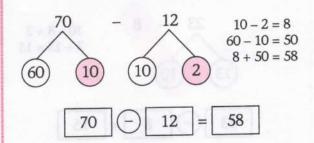
- (a) She has 50 cookies at first.
- (b) Use 'counting on' method to find the number of cookies she has altogether

(b) She has 90 cookies altogether.

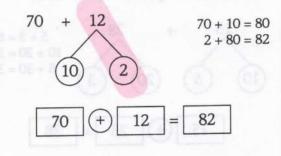
#### **Solution to Question**



(a) Use number bonds to find how much more he has spent than saved



- (a) He spends \$58 more than he saves.
- (b) Use number bonds to find the amount of money he has at first



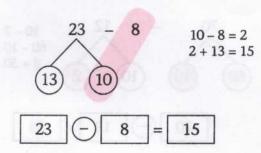
(b) He has \$82 at first.



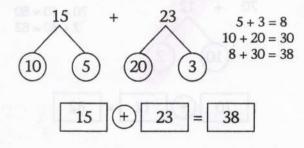
#### Solution to Question

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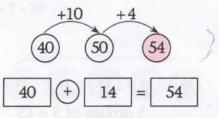
(a) Use number bonds to find the cost of the bowl



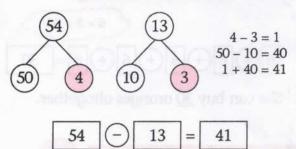
- (a) The bowl costs \$15.
- (b) Use number bonds to find the total cost of the plate and the bowl



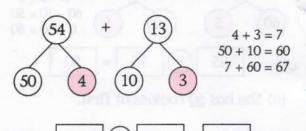
(a) Step 1: Use 'counting on' method to find the total number of chickens



Step 2: Use number bonds to find how many more chickens than ducks there are



- (a) There are <u>41</u> more chickens than ducks on the farm.
- (b) Use number bonds to find the total number of chickens and ducks



- (b) There are <u>67</u> chickens and ducks altogether.
- (b) The total cost of the plate and the bowl is \$38.

